

Fig.1

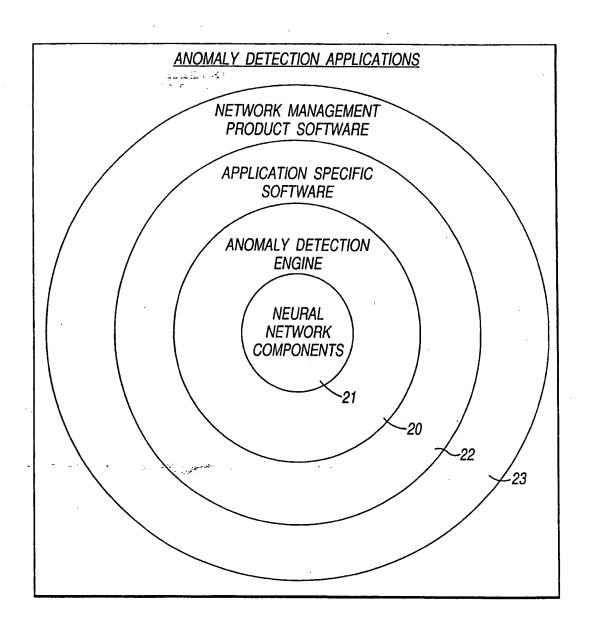


Fig.2

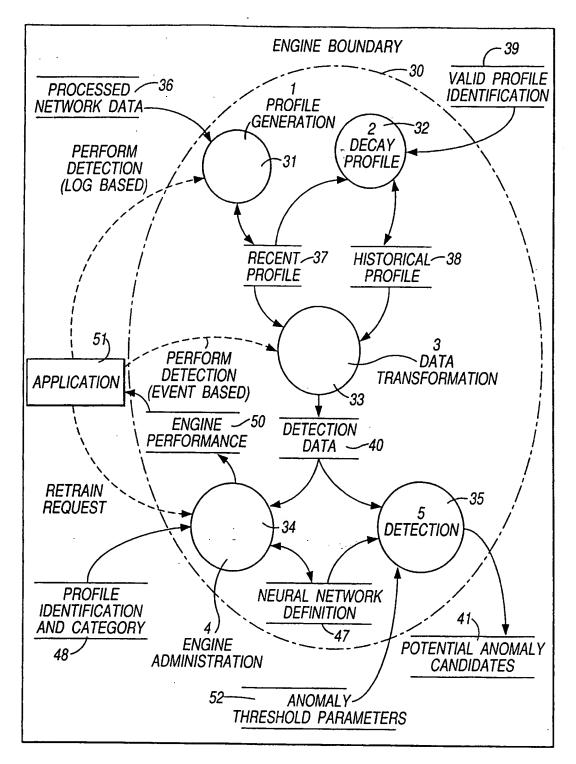


Fig.3

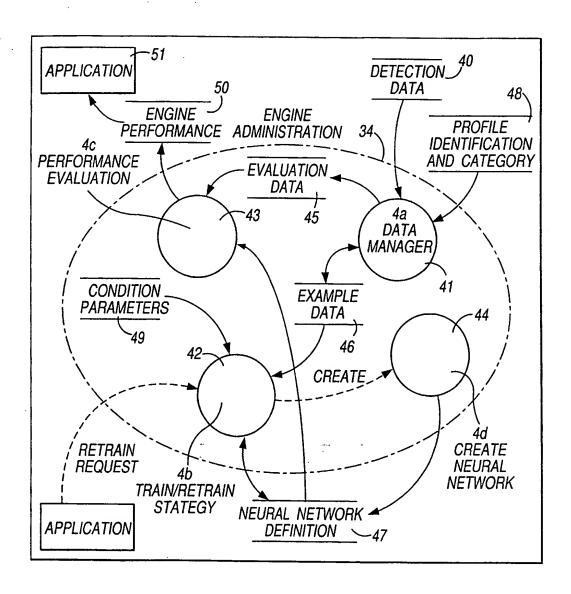


Fig.4

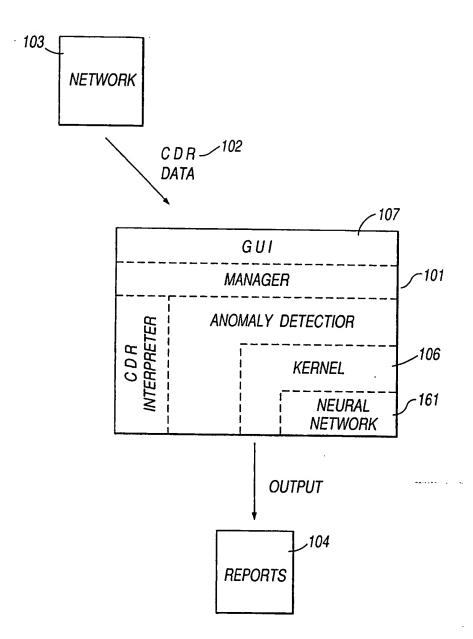
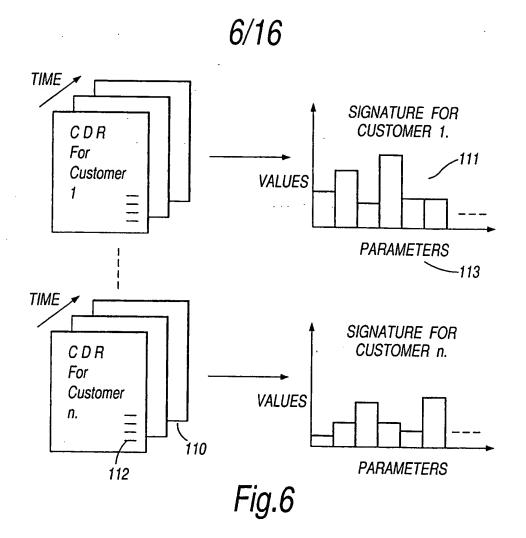


Fig.5



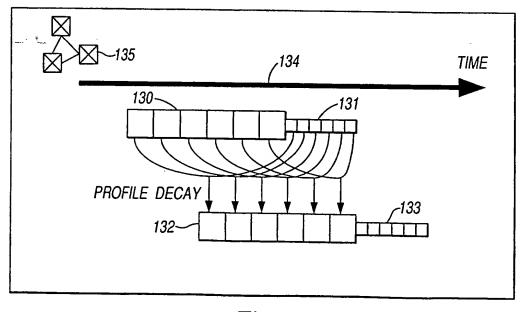
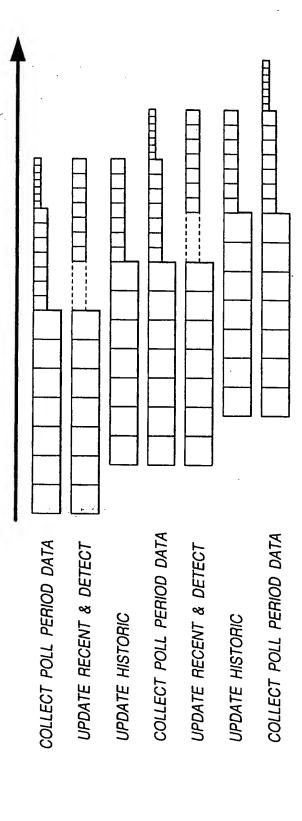


Fig.7



PROFILE DECAY

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Fig.8

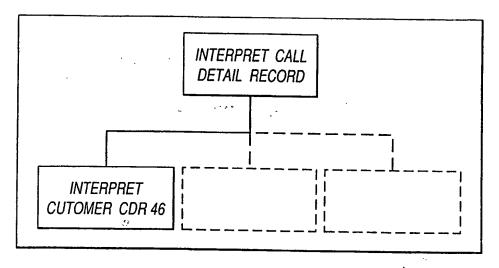


Fig.9

ELEMENT NAME	POSITION (FROM 0)	FORMAT
CALL_START_DT	9	YYYY-MM-DD HH:MM:SS.ss
LONG_DUR_CALL_IND	12	1 — FIRST 6 HOURS
		2 MIDDLE
		3— COMPLETED
SERVICE_FEATURE_CODE	15··· / 15···	00 — OTHER
		10 — THREE WAY CALLING
		12 — CALL FORWARDING
		14 — CALL FORWARD BUSY
ORIG_TEL NO	16	CHAR (24)
CALL_DURATION	20	MMMMSS
ORIG_NNG	22	DDDD
DEST_NNG	23	DDDD
DAY_OF_WEEK	24	1-7 (MON=1, SUN=7)

Fig.10

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ATTRIBUTE NAME	TYPE
AccountNumber	STRING
CallForward	BOOLEAN
LongCall	BOOLEAN
Duration	INTEGER
Destination	ENUM (LOCAL, NATIONAL, INTERNATIONAL)
DayOfWeek	ENUM (MONDAY, TUESDAY,, SUNDAY)
CallTime	TIME

Fig.11

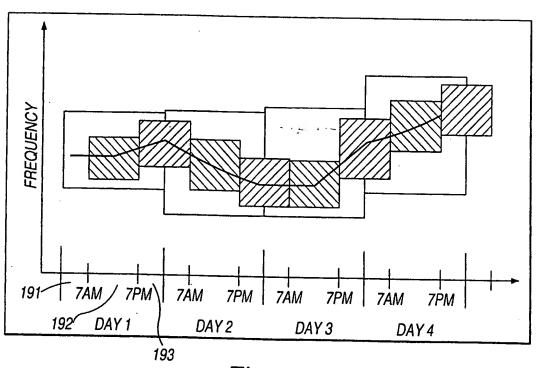


Fig.13

PROFILE		1000		
FIELD ATTRIBUTE NO.		COVEHAGE TIME PERIOD	TYPE	RANGE
% LOCAL			FLOAT	0.00 — 1.00
% NATIONAL		i .	FLOAT	0.00 — 1.00
% INTERNATIONAL			FLOAT	0.00 — 1.00
TOTAL NUMBER OF CALLS	S77		FLOAT	N/A
AVERAGE DURATION			FLOAT (NUMBER OF SECONDS)	N/A
NUMBER OF LONG CALLS	S	-	FLOAT	N/A
NO. OF CALL FORWARDS	S		FLOAT	N/A
% MONDAY		00:00:00 — 23:59:59	FLOAT	0.00 — 1.00
% TUESDAY		00:00:00 — 23:59:59	FLOAT	0.00 — 1.00
% WEDNESDAY		00:00:00 — 23:59:59	FLOAT	0.00 — 1.00
% THURSDAY	·	00:00:00 — 23:59:59	FLOAT	0.00 — 1.00
% FRIDAY		00:00:00 — 23:59:59	FLOAT	0.00 — 1.00
% SATURDAY		00:00:00 — 23:59:59	FLOAT	0.00 — 1.00
T T				

Fig. 12

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000	0.00 - 1.00	0.00 — 1.00	0.00 — 1.00	0:00 — 1.00	0.00 — 1.00	0.00 — 1.00	0.00 — 1.00	0.00 — 1.00	0.00 — 1.00	0.00 — 1.00	0.00 — 1.00	0.00 — 1.00	0.00 — 1.00	0.00 — 1.00	0.00 — 1.00
TAO 17	FLOAT	FLOAT	FLOAT	FLOAT	FLOAT	FLOAT	FLOAT	FLOAT	FLOAT	FLOAT	FLOAT	FLOAT	FLOAT	FLOAT	FLOAT
00.00.00	00.00.00 — 23:59:59	07:00:01 — 19:00:00	19:00:01 — 07:00:00	07:00:01 — 19:00:00	19:00:01 — 07:00:00	07:00:01 — 19:00:00	19:00:01 — 07:00:00	07:00:01 — 19:00:00	19:00:01 — 07:00:00	07:00:01 — 19:00:00	19:00:01 — 07:00:00	07:00:01 — 19:00:00	19:00:01 — 07:00:00	07:00:01 — 19:00:00	19:00:01 — 07:00:00
% STADAY	% SUNDA I	% 7AM -> 7PM MONDAY	% 7PM MONDAY -> 7AM TUESDAY	% 7AM -> 7PM TUESDAY	% 7PM TUESDAY-> 7AM WEDNESDAY	% 7AM -> 7PM WEDNESDAY	% 7PM WEDNESDAY -> 7AM THURSDAY	% 7AM -> 7PM THURSDAY	% 7PM THURSDAY -> 7AM FRIDAY	% 7AM -> 7PM FRIDAY	% 7PM FRIDAY -> 7AM SATURDAY	% 7AM -> 7PM SATURDAY	% 7PM MONDAY -> 7AM SUNDAY	%7AM SUNDAY	% 7PM MONDAY -> 7AM MONDAY
11	4	15	16	17	18	19	50	21	22	23	24	25	56	27	28

Fig. 12A

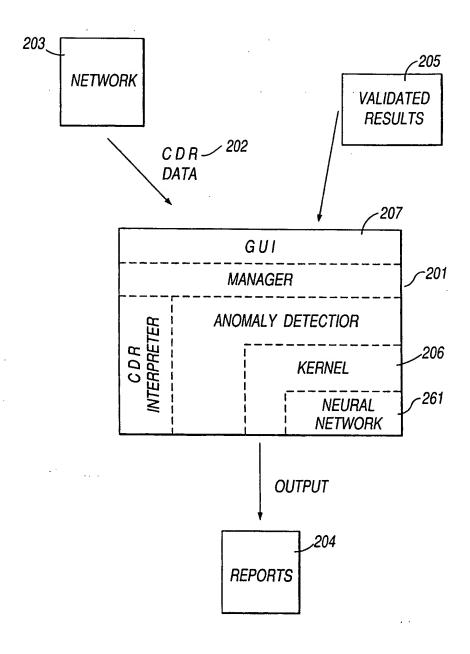
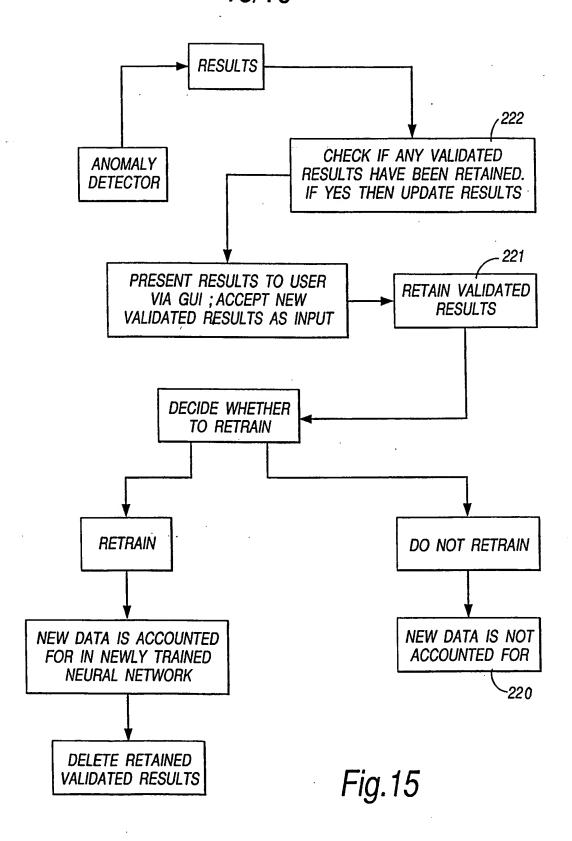


Fig.14





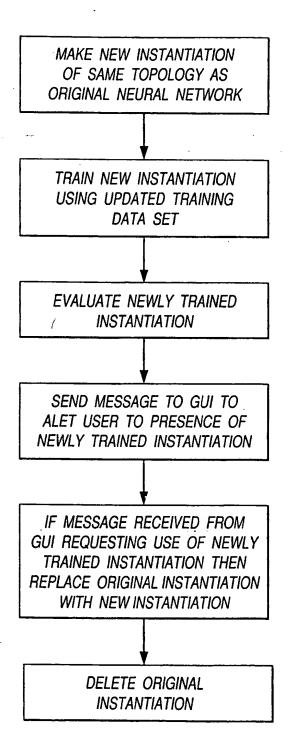


Fig.16

File Print W	indows Help				
File: cdrFile	· ·	Date	: 31-10-96 11:4	1 AM Reloa	
Overall Statistics	·	Sele	ction Statistics		
Accounts:	- 599		ccounts:	16	
Fraudulent Bel	naviour: 46	F	raudulent Behavi	our: 3	
Expected Beha	viour: 553	E	xpected Behavio	ur: 15	- 11
Coverager: all	♦ subset	Individual			
_ Display		on Criteria —		Corder	
♦ Fraudule	ent 🔷 All		ļ		
♦ Expecte	d Acon	fidence(%)	95 🖨	Confidence	
1 1				♦ Duration	
♦ Both	Limi	it to	100 ♦		
Normalia					_
Number	01279			Update	_
					243
		· · · · · · · · · · · · · · · · · · ·			<u> </u>
Account #	Behaviour	Confidence (%)	Duration (sec	s) Validity	240
01279402460	Fraudulent	99.9			
01279402012 01279403610	Expected Fraudulent	99.9			_
01279403076	Fraudulent	99.9			241
01279402946	Fraudulent	99.9 99.9			-+++1
01279403252	Fraudulent	99.9			-111-241
01279402490	Fraudulent	99.9			$\exists \Pi \Pi$
01279402102	Expected	99.9			
01279403210	Fraudulent	99.9			
01279403046	Fraudulent	99.9			-
01279402046	Fraudulent	99.9			242
01279403259	Fraudulent	99.9			7日15%
_ Validation ——					
Correct	Incorrect	Clear	Clear All	Add Knowled	lge 244
Messages					
	·				-
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Fig.17

File Print Help			
Accounts: Fraudulent Behaviour Expected Behaviour: overager:		Accounts: Fraudulent Behavio	16 our: 3
Display Fraudulent Expected Both	Selection Criteria All Confidence (%)		Order Confidence Duration
Number:	01279		Update
100 90 C 80 n 70 f 60 d 50 e 40 n 20 e 20 10 15.0 24.8 33	9.6 42.4 51.2 6	0.0 68.8 77.6 8	6.4 95.2 104.0

Fig.18